

ABSTRACT

Fluid flow rate measurement has many types of fluid flow measurement devices vary depending on the measuring principle used and fluid flow measurement is also important in terms of flow control. In practice, there are several flow rate measurements that are not equipped with a valve control system. So that the user cannot control the required valve rotation. Therefore in this study developed a gas flow measurement and control system. The application of a biogas production volume monitoring and control system with a flowmeter based on the internet of things hybrid model allows controlling and monitoring of devices attached to the digester to provide information convenience to its users and can be accessed remotely anywhere anytime without direct contact. This system consists of sensors as measuring devices, microcontrollers as controllers, solenoid valves as actuators, and assisted by GSM/GPRS and Wifi (hybrid) modules as IoT-based communication modules. The working principle of this system uses a flowmeter sensor as a measuring device to read gas flow so that the results of gas production volume can be monitored. In this study the sensor used is YF-S401 and the controller is a solenoid valve. The average error value obtained by the sensor is 7.26% and the accuracy level is 92.74%.

Keywords : gas, flowmeter, internet of things